

In re Patent Application of
WOHLAND ET AL.
Serial No. **Not Yet Assigned**
Filed: **Herewith**

In the Claims:

1. (Original) A screening method for at least two binding partners, which comprises:

labeling each binding partner with a fluorophore, characterized in that the at least two fluorophores have substantially the same single-photon excitation wavelength and different emission wavelengths;

detecting emission signals from the respective fluorophores at the different respective emission wavelengths; and

processing the detected emission signals to obtain fluorescence correlation spectroscopic data for screening the binding partners.

2. (Original) The method of claim 1, wherein one of the fluorophores has as a larger Stokes shift than the other.

3. (Original) The method of claim 2, characterized in that a relative Stokes shift difference between the fluorophores is greater than about 50nm.

4. (Original) The method of claim 3, characterized in that the relative Stokes shift difference between the fluorophores is greater than about 100nm.

5. (Currently Amended) The method of ~~any one of claims 1 to 4~~ claim 1, characterized in that at least one of the fluorophores comprises a nanocrystal or a quantum dot.

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6. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 5~~ claim 1, characterized in that at least one of
the fluorophores comprises a fluorescent energy transfer dye.

7. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 6~~ claim 1, characterized in that at least one of
the fluorophores comprises a standard organic dye.

8. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 7~~ claim 1, characterized in that the fluorophores
comprise fluorescein and quantum red.

9. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 8~~ claim 1, characterized in that the fluorophores
comprise fluorescein and tetramethylrhodamine.

10. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 9~~ claim 1, characterized in that the fluorophores
comprise fluorescein and semiconductor nanocrystals.

11. (Currently Amended) The method of ~~any one of~~
~~the preceding claims~~ claim 1, characterized in that the
fluorophores comprise 3 or more fluorophores.

12. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 11~~ claim 1, characterized in that the binding
partners have a mass difference of less than a factor of 10.

13. (Original) The method of claim 12,
characterized in that the binding partners have a mass
difference of less than a factor of 8.

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14. (Currently Amended) The method of ~~any one of~~
~~claims 1 to 13~~ claim 1, characterized in that the binding
partners comprise biotin and streptavidin.

15. (Original) A biological screening apparatus for
screening at least two binding partners, the system
comprising:

a single laser beam source;

an optical system for directing the single laser
beam onto the binding partners and for directing fluorescence
emitted from the sample towards a spectrograph unit, wherein
the fluorescence is emitted from at least two fluorophores
labeled to different ones of the binding partners, the
fluorophores having substantially the same single-photon
excitation wavelength and different emission wavelengths;

the spectrograph unit separating the emitted
fluorescence by wavelength;

a detector unit for detection of the fluorescence at
respective different wavelengths; and

a processing unit for obtaining fluorescence
correlation spectroscopic data for screening the binding
partners.